

Southern Planter's Convention.

As is known to many of our readers, this body will assemble at Holly Springs during the State Fair, which is to be held there next Fall. It seems somewhat strange to us, that the meeting of a body whose objects are so important, should be treated with that indifference which is so manifest. The manufacturers and cotton-buyers of the old world are exerting every energy to make themselves independent of the cotton growing States of this Republic. England and France are spending millions annually, to raise a few thousand bales of cotton in India and Algeria. All these efforts have in view the diversion of the cotton trade from this country to their own, that they may regain the sceptre of commerce, which has so long departed from them. The Atlantic States, at the same time, are striving to keep as in commercial subjection to themselves.

While all these efforts are being made to make unprofitable that product of our soil which now brings us riches without limit, and so gives us a preponderant influence among the nations, we fold our arms and stand idly by. Instead of strengthening ourselves, we do nothing, relying too much upon our more natural advantages. Instead of bringing to light and improving those resources which the "God of Nature" hath placed in our power, we allow them to lie neglected, and go to wreck. Our lands wear out, and are abandoned. Our forests are destroyed, and are rather an incumbrance than a source of profit or of power. Our manufacturing and commercial interests have little encouragement. Our colleges and schools are illy supported. All things seem to be lost sight of, but the mere cultivation of the soil.

For many years, efforts have been continually made, on the part of some patriotic Southerners, to remedy this deplorable state of things, and as a slight reward of their labors, they see the public mind at last awakening to the importance of the subject, and seeking to remedy the growing evil. Every branch of Southern enterprise is advancing more rapidly than ever before. To free us from commercial dependence on States which are enemies to our institutions and policy, Direct Trade between the Southern States, as producers, and the more liberal States of Europe, as consumers, has long seemed the most feasible plan. Mr. C. G. Baylor has for years devoted his energies to the promotion of direct commercial intercourse between Belgium and some city in the cotton growing States. His life-long purpose seems to have been accomplished at last. An association, of large moneyed interests, has been formed in Brussels, having for its object, a more intimate intercourse with the Southern States, looking especially to the commerce in cotton. And Georgia, always foremost to act in any matter pertaining to the manufacturing or commercial interests of the South, has recently sent to Europe a delegation of her most distinguished and able men, with the express design of furthering the interests of Direct Trade.

Direct Trade seems to be relied upon as the great remedy which is to free us of our dependence on England and New England. But why, seeking a grand object, should we neglect the less important? The people of the South have many interests in common. Why pay all our attention to one of these interests, and leave the others unattended for? How can we people come to any understanding about their common interests, unless they meet in common council? For the purpose of consulting in relation to these common interests, this Convention of Southern Planters is called. There are many important subjects which they will discuss in addition to that of Direct Trade. Among the most important matters which will attract their attention, are, the agricultural and manufacturing interests of the South, and the supplying of Southern school books. We hardly suppose that the political status of the South will be a subject of discussion among them.

We heartily approve of this annual assembling of Southern Planters. It cultivates an acquaintance among them, which must result in greater harmony of sentiment and a stronger bond of brotherhood. Besides, it effects no other good purpose, it certainly draws the attention of our people to those subjects which are of vital interest to their prosperity. Discussion will elicit the truth; and our people, becoming alive to their interests, can work more unitedly for the common good. Let us, then, take care that the Convention of Southern Planters shall be an assemblage of true men of the South, who know our varied interests, and will counsel wisely for their advancement.

The Great Eclipse.

We have been for some time aware that Dr. Barnard, the Chancellor of the University of Mississippi, had been invited to make one of the corps of astronomers for whose transportation to Cape Codley—the extreme northern point of Labrador—for the purpose of observing the eclipse of the Sun which will be total on the 18th of July, Congress has made provision, by joint resolution, and that the Trustees of the University, while they naturally regret the absence of the head of the Faculty during the interesting exercises of the approaching Commencement, which is necessarily involved in his acceptance of the invitation, have also unanimously signified their willingness, in view of the great scientific importance of the mission, that he should engage in it. Despatches recently received from Washington give notice that the steamer conveying the expedition will sail from New York on Wednesday next, (the 27th instant), and Dr. Barnard will accordingly leave here on the 29th.

To Our Contemporaries of the Press.

We have sent the "Intelligencer" to a number of our contemporaries, and from many of them have received very flattering notices. But some of them have forgotten to put our name upon their exchange lists. Will they see to this? We will return their favors at every opportunity, and will send them a copy of the "Intelligencer" which shall be put in large instalments, but every wholly liquidated.

Napoleon III.

"Some are born great, some achieve greatness, and some have greatness thrust upon them." Such is the testimony of Shakespeare; and in it he presents, in the briefest possible phrase, a key to the often paradoxical picture of human distinctions or success which the world exhibits. The greatness intruded in the remark is not that native or intrinsic greatness which inheres in its subject; for in this sense, doubtless, many are born great whom the dramatist by no means designed to include. Such greatness, if it never manifest itself, is as if it were not; while, if, by its vigorous displays, it force the world to recognize its superiority, it attains, through its conceded eminence, a greatness of position, which, though a consequence of the other, is by no means the same thing. Gray, meditating among the tombs of the forgotten and obscure, gives us an idea of this supposable but unknown and unconscious greatness, in the suggestion that, "Some village Hampden, who, with dauntless breast, The little tyrant of his fields withstood,— Some mute, inglorious Milton, here may rest— Some Cromwell, guiltless of his country's blood."

The greatness, however, which Shakespeare had in mind, and with which we have to do at present, is that which depends on circumstances external to the person who is fortunate enough to enjoy it; circumstances which usually embrace pre-eminence of position, political or social, and a power material or moral to affect or control the current of human affairs, and to stamp an impress upon the world's contemporary history. This is a greatness to which one may easily be born, without possessing the slightest trace of that inner and nobler superiority, by means of which, (and, under ordinary circumstances, by means of which only) the originally humble sometimes rise to exalted station. It is a greatness to which one may be born without being equal to it; and which, as in the instance of Charles the Simple, or Lewis the Stammerer, or Ethelred the Unready, may serve only to perpetuate the memory of his weaknesses and his defects.

Such a greatness, too, in the often anomalous course of human events, may sometimes be thrust upon one for whom nature had not designed it. The son of the great Protector of England, though not entitled, by the circumstance of his parentage, to bear the rod of empire which death had wrested from his father's hand, happened nevertheless to be in the way when a successor was needed, and was made the reluctant recipient of that unwelcome greatness, which he shortly after so glacially resigned. The poet Lamartine, amid the political convulsions under which France was reeling, just after the downfall of the citizen king, happened also to be among the most conspicuous objects floating upon the surface of agitated society, and became charged, almost before he knew it, with a burden of greatness which presently crushed him back into the political obscurity from which he rose.

But the unsought greatness which is thus occasionally thrust upon an unexpected individual, is not always of necessity misplaced. When, by the spontaneous confidence of his fellow-citizens, Cincinnatus was summoned from the plough, to avert the danger which menaced the independence of his country, the skill and energy which enabled him, in a single fortnight, to drive back, like a flock of sheep, the presumptuous enemies of Rome to their own cities, proved that the unequalled supremacy with which he had been invested, had been worthily bestowed. A similar remark may be made of our own Washington, and of his appointment to the command in chief of our unorganized and ill-provided revolutionary army; for there can be no question that this was a distinction as little looked for by him as it was desirable to any one; a distinction of which the advantages were more than doubtful, while the dangers there could be no doubt at all. And, moreover, the uncertainty how far such an appointment carried with it an actual and not a shadowy or visionary greatness, was one which depended on the character of the man in a great degree to determine; so that it was chiefly a barren responsibility which was thrust upon Washington; and the greatness which grew out of it was of his own creation.

It may seem absurd to intimate that there can be any point of resemblance between men so widely different, in nearly every important characteristic, as Washington and the remarkable individual whose name we have placed at the head of this article. But it is certainly equally true of both, that while they have been the architects of their own greatness, they owed to the times in which they lived, and to a current of events which they did not originate and could not control, the opportunity to demonstrate to mankind of what they were capable. Both of them had arrived at mature years, before their greatness began; both of them were fitted to an eminence as difficult as it was seemingly insecure and dangerous, by the wave of revolution; and both of them have stamped the impress of their personal characters upon the history of their respective countries. Had Washington been governed by impulses such as have ruled the third Napoleon from his birth, America might have lapsed again into monarchy; had Napoleon possessed the disinterested patriotism of Washington, France might to this day have continued to be a republic.

Every parallel, therefore, which we attempt to pursue between these two distinguished men, speedily terminates in contrast. The differences between them are manifest in their earliest public acts. Washington, a brave and skillful soldier, ready and energetic, and above all, conscientious in the discharge of duty, at no time betrays the slightest ambition of self-aggrandizement. Napoleon, for forty years a dreaming exile or a prisoner of State, scarcely passes a conscious hour, in which the vision of his predestined elevation does not occupy his imagination. Washington, again, if without ambition, was manifestly not without that sound judgment and cautious sagacity which furnish the best

guaranty of success in the most difficult emergencies; while Napoleon, as if to destroy the confidence of all mankind in his fitness for any place short of an asylum for lunatics, twice hazarded his life in revolutionary movements, compared with which, in point of reasonable promise of success, the descent of Lopez upon Cuba was commendable and judicious. When, therefore, Washington was raised to the control of our embarrassed public affairs, it was felt that, if success was possible at all, it was possible for him; but when the world saw a people so far deluded by the shadow of a great name as, by a sort of wild and unreasoning impulse, to commit their destinies into the hands of a reckless and half-brained adventurer, the conviction was no less universal that if it were possible for a good cause to be shipwrecked by an incompetent pilot, the French nation had found out the very way to do it.

Had Louis Napoleon died before the revolution of 1848, he would have been remembered, if remembered at all, only as a weak and visionary young man, possessed indeed of talents, (manifested in his writings,) which well directed might have made him a useful citizen; but ruined, for all practical purposes, by his ceaseless remembrance of the fact that he was the nephew of his uncle. Had he died after the revolution, and before that bold step, by which, in a single night, he swept away every trace of the republic which had been his stepping-stone to power, he might have been mentioned in history as one of those fortunate but insignificant individuals, whom accident sometimes lifts into notice, to disappear as silently as they rose. The greatness, therefore, which he has undeniably achieved, has this most remarkable guaranty of its reality, that it has been won in the face of invertebrate and almost universal prejudice, and has been involuntarily conceded by the tardy judgment of a reluctant world. Indeed, if ever any man, by dint of inflexible perseverance and indomitable will in pursuit of his objects, sustained by a personal ability more strikingly manifested with every new development, could fairly claim to have wrought out for himself a just title to be called great, that man is Napoleon III.—Whether he is as good as he is great is a different question, and one which we need not here discuss; but he is certainly very far indeed from being as bad as it has been the fashion to paint him. His greatest imputed sin has been his trampling on a constitution which he had sworn to sustain; but this daring, and as it at first sight appears, indefensible, act, loses much of its culpability, when it is considered, as has since appeared, that the blow which he struck was in self-preservation against a body who, with equal disregard of the legitimacy of the means to be employed, were bent on effecting his destruction. And even in that most heinous act, whether we approve or disapprove it, we discover all the characteristics which distinguish the truly great man,—unhesitating decision of purpose,—bold and confident self-reliance,—calm looking of the crisis in the eye,—and above all that restless power of bending others to his will which he displayed in wielding the vast machinery of executive authority, military and civil, in steady and harmonious action throughout all the wild tumult of a convulsion which shook society to its foundations—a power which only accompanies conscious superiority, and which other men recognize, as it were instinctively, wherever it exists.

It has been said that success is the true test of greatness. Judged by that standard, there can be no question of the greatness of Napoleon III; for of all men living he has been the most successful. We may indeed question the justice of the standard; for there have certainly been men whom we would willingly call great, who have undeniably failed; but on the other hand there was never yet an inferior man who in great things was successful. Napoleon has not only been the most successful man of his age, but he has been successful over the greatest difficulties. With a people torn by factions, with the contending of a dethroned dynasty incessantly laboring to undermine him, with the thwarted and visionary votaries of a wild and leveling socialism perpetually plotting against his life, he has gone steadily and uninterruptedly on in the prosecution of all those great measures of public policy by which a nation is rendered prosperous at home and formidable abroad, till faction has been silenced, opposition paralyzed, and his power so firmly established that, like Louis XIV, he may justly claim that he himself is the France which he rules.

But Napoleon III is not merely to-day the ruler of France; he is no less the master of Europe. A single word addressed by him, eighteen months ago, to the ambassador of Austria, filled every court with alarm, and made every financier in England or on the continent turn pale. And when Austria, disdaining the admonition, dared still to go on in pursuit of her schemes of aggression, the celebrity with which he threw his legions into the fields of Italy, and the consummate skill with which in person he led them there from victory to victory, added the last element that was wanting to complete the overshadowing prestige of his name, and to render France in his hands the arbitress of the destinies of Europe. The very peace of Villa Franca, loudly as it was exclaimed against, and greatly as it astonished the world, only proves to-day how vastly more astute and penetrating was his foresight than that of the world which complained. He abandoned Venetia, it is true; but he restored all northern Italy, with that exception, to independence and peace; and secured to southern Italy that freedom for self-assertion which she seems now likely successfully to improve; whereas, had he carried the war into the famous quadrangle, the necessity of occupying the Tyrol would inevitably have drawn Prussia and the minor German powers into the struggle, have extended the conflict to the Rhine, have opened up a European war of colossal dimensions, and have landed at last another peace of 1815, which might have

entrained Italy even more miserably than before.

He is, we repeat, to-day the master of Europe. He puts his foot upon the treaty of Vienna, and thunders cabinets, bound fast in the trammels of red tape formality and diplomatic precedent, wring their hands in impotent distress. He "rectifies the boundary" of France upon the Alps, without considering that it is not reliable for a monarch to sneeze in Europe without the assent of his brother potentates, and the startled powers exclaim against the outrage, and submit. He says to the vagabond despots whom Italy has spawned from her, "you may return to your dominions, if the people want you;" but he says to their more formidable backers, you shall not lift a foot in their behalf, and they swallow their chagrin and remain inactive. More daring than all, he says to the pope, "submit gracefully to a necessity which you cannot overrule; abandon your claim to a territory which is no longer yours and which you cannot recover; confine yourself within the limits of which you are still secure, and you shall still enjoy the protection of France; refuse these conditions, and my armies shall leave you to take care of yourself." And though the holy father responds to the appeal with querulous complaints and angry imprecations, yet the unmoved monarch turns not to the right hand nor the left; but steadily goes on preparing to be as good as his word. The order has gone forth. The French bayonets which, for twelve years, have propped up the tottering throne of the Vatican, are about to be withdrawn; and it is by no means beyond the limit of possibility, that in less than another twelve months, the world may once more see Mazzini in Rome.

For many years the political sky of Europe has never presented an aspect so darkly lowering as at present. For many years there have not seemed to accumulate at any one time so many of the elements of discord, or to gather and combine so many causes ominously menacing the permanence of peace. But in all these complications, we can discover only evidences of the growing strength of Napoleon; and we entertain the fullest conviction, that if he desires peace he can certainly command, and will unquestionably maintain it. If he does not desire it, there will most assuredly be a renewal of war; and if war be renewed, we have had too many evidences of his far-seeing sagacity to doubt that he will turn it to the aggrandizement of France and the accomplishment of his own purposes; and that he will come out of it in the possession of those very advantages for the sake of which he went in.

It has been said, and in general we admit the justice of the remark, that it is not safe to write the history of any man so long as he is living; but if prudence, sagacity, clear statesmanship, and a diplomatic libretto successful without example, may furnish any guaranty of the character of a yet uncertain future, Napoleon III is not likely to belie, in the evening of his reign, the promise of his meridian; nor is Europe likely to be without a master, so long as he continues to bear the sceptre of France.

Meteorite Showers.

The reader will find on our first page this morning, a very interesting paper from the pen of Prof. BARNARD, President of Oxford University, on the subject of "Meteorite Showers." We published, recently, an account of a phenomenon of this kind in Ohio, and in answer to a letter from a citizen of Memphis, Prof. BARNARD furnishes an epitome of the history of observations upon, and the theories which are supposed to account for, the singular phenomena of aerolites. It will be found alike interesting to the general and the scientific reader.—*Appel.*

The following is the letter of Chancellor BARNARD, above referred to. Dr. B. informs us that it was prepared in haste, with no view to its publication, and, therefore, with less of care to make the copy legible than would otherwise have been bestowed upon it. Appearing in the *APPENDIX* without his supervision, it was there disgraced by many errors of the press, which he has corrected for the *INTELLIGENCER*.—*Appel.*

UNIVERSITY OF MISSISSIPPI,

June 10, 1860.

DEAR SIR:—I have received your note of the 30th ult., and avail myself of the earliest moment of leisure to reply. In asking my opinion in regard to the shower of stones reported to have taken place recently in Ohio, I am a little doubtful as to whether you mean to raise a question concerning the credibility of this statement, or of such statements in general; or whether, admitting the truth of the alleged facts, you wish to know what theory, if any, science has to offer to account for them? The latter question is that which I presume you intend.

Accounts of the occasional fall of stones from the heavens are to be found in writings of almost every age; but, until about the beginning of the present century, they were for the most part rejected by all but the very credulous. Men of science were generally regarded them with something more than distrust. On the 29th of April, 1803, there occurred, however, a phenomenon of this kind in the province of Normandy, in France, so remarkable on account of the vast number of persons by whom it was witnessed, the extensive area over which the attendant explosions were heard, and the circumstance that a careful investigation of all the facts was directly afterward made by order of the French government, by M. Biot, a member of the Institute of France, and one of the most eminent professors of physics which that country has ever produced, as to set at rest forever the question, till then unsettled, as to the reality of the fall, sometimes at least, of meteoric stones from the atmosphere.

It is true that there had been earlier occurrences of a similar nature, of which the accounts were too well authenticated to permit them to be classed with the questionable tales, of the Greek and Roman writers; but no well attested incident of the kind had attained anything like the notoriety which the action of the French government, and the active interest taken in the subject by the most distinguished body of scientific men in France (and it may be added, in the world) immediately gave to this. The famous Italian mathematician, Cardan, indeed, had detailed the circumstances attendant on the fall of more than a thousand stones in one shower, at a place not far from Milan, in the year 1510. The largest of these weighed one hundred and twenty pounds. Gassendi, a scarcely less famous French philosopher, about a century later,

had stated that he himself saw a flaming stone fall upon an eminence in Provence; and, after describing the visible characteristics of this stone, added that it weighed fifty-nine pounds. The diligence of more modern investigators has brought together accounts of many similar occurrences of earlier date than the present century; and some earlier than either of the two just mentioned. One of the most remarkable of these, was the fall of a stone in the year 1492, at Eschheim, in Germany, of the extraordinary weight of 240 pounds. Between 1750 and 1800, about a dozen examples are recorded.

The number of well-authenticated cases of similar phenomena, within the present century, is very considerable. The cabinet of the British Museum contains specimens of more than thirty belonging to this period, whose place and time of fall are known. The total number of specimens in that collection, embracing those whose times of fall are unknown, as well as those in which the fall was witnessed, is about seventy. The collection at Amherst College, Mass., made by Professor Chas. U. Shepard, is the largest in this country, and, with one exception, the largest in the world. It contained, in 1859, 124 specimens. The collection at Vienna, in Austria (in the imperial cabinet), the only one which exceeds Professor Shepard's, contained in 1859, 139 specimens, of which 76 have fallen since 1800. All the large collections contain specimens which fell in your own State of Tennessee; the latest in point of date in the catalogues, within this area, having fallen near Carthage in the year 1847. The newest specimen from any locality which I know to be in any collection, is from Harrison County, Indiana, and fell on the 28th of March, 1859. But as active collectors are almost yearly adding to the number of their specimens, and as hardly a year passes, now that science has become so vigilant, without some new occurrence of this kind being noted, I do not doubt that many cabinets are by this time enriched with more recent specimens.

In illustration of this remark, I may observe that the scientific journals contain notices of at least four meteors attended with explosion, observed within the United States during the year 1859. The first of these was the Indiana meteor of March, mentioned above; the second was one observed in New England and New York, on the 11th of August. The third is reported by Professor B. W. McDonald, of Bethel College, in the January number of *Silliman's Journal of Science*, as having passed over West Tennessee on the 1st of September; and the fourth was a very remarkable meteor, seen from Connecticut to Maryland, with detonations lasting fully a minute, on the 15th of November last.

From my personal knowledge of the zeal of Professor Shepard in investigating all facts of this kind, and in gathering visible evidences of them, I feel quite confident that some of the rocks of the recent Ohio shower are already in Amherst.

The number of fragments which have fallen on a single occasion has been very various. Occasionally but a single mass has been known to fall, but more usually there have been several, and now and then a vast number. In the case of the Normandy shower above mentioned, Mr. Biot stated, as the result of his investigation, that the total number must have been several thousand. The detonations, on that occasion, were heard nearly a hundred miles in every direction. The weight of the masses fallen has been no less various. The smaller fragments have been of but a few ounces—the larger of many hundred pounds. The heaviest have consisted principally or entirely of iron, alloyed with a certain proportion of nickel—a combination never found native in minerals of terrestrial origin. There is one specimen of this kind from South America, in the British Museum, (itself but a part of the entire mass) which weighs 1,400 pounds. There is another in the cabinet of Yale College, from Texas, of which the weight exceeds 1,600 pounds.

Dr. J. Lawrence Smith, of Louisville, quotes (SILLIMAN'S JOURNAL, March, 1855) from the manuscript of Commissioner Bartlett, of the Mexican boundary survey, a description of a mass of meteoric iron still larger than either of the above mentioned, existing at the Hacienda de Chupetlan, ten miles from Lapata, Chihuahua. Its weight is stated, on the authority of Señor Urquiza, at three thousand, eight hundred and fifty-three pounds. This was the largest mass of meteoric iron on record, according to my present recollection, until the recent discovery, by Dr. John Evans, United States Geologist for Oregon, of a mass in that Territory (now State), of entirely unprecedented, and of as yet imperfectly ascertained, dimensions. From the partial measurements reported, it must weigh many tons.

The mineralogical character of these aerolites is so peculiar, that chemists and mineralogists have now no difficulty in recognizing a specimen wherever found, though there may have been no witnesses of its fall, and though it may have possibly been lying for centuries where it is found. The elements which enter into their composition are few in number; and among these, malleable iron combined with nickel is almost or quite invariably present, and sometimes in fact constitutes the entire mass. Besides these chemical characteristics, the masses are also recognizable by their peculiar appearance, and their superficial vitrification. A sort of glazed crust appears to cover them, which is correctly described by Lieut. Tibbels, in the letter which you send me. This crust, which is usually dark over those parts of the surface which seem to have been external in the original mass, appears to extend, though with a lighter tint, over the fresh fractures made by the explosion. When the masses have been examined as they lay, immediately after the fall, they have invariably been found to be hot—often too hot to be touched—and imbedded more or less deeply in the earth by the force of the fall.

In what I have thus far written, I have probably not touched the question which chiefly interests you, and that is, what are aerolites, and where do they come from? To this question I am sorry to be obliged to say, science has as yet been able to furnish no satisfactory answer. I do not mean, however, to be understood that there have not been speculations enough on the subject; but the very fact that many widely differing hypotheses exist, is in itself a proof that the true explanation is still among the secrets of nature hidden from mankind. Nor can I perceive how anything like absolute certainty in the matter can ever be attained. The masses which descend to us are evidently (at least in most cases) but insignificant fragments of larger bodies, which bodies are visible to us only during the few brief moments in which they are involved in our atmosphere, and whose previous or subsequent track we have no possible means of tracing. Still they are not in the slightest degree more inexplicable than are those analogous but more familiar phenomena, of nightly occurrence, known as "shooting-stars." The bodies thus frequently seen traversing the upper regions of our atmosphere, are possibly, in many cases, of the same nature as those from which aerolites have been seen to descend, but as they escape without exploding, they furnish us with no substantial contributions. They are of ten, no doubt, so rare in substance as to be en-

tirely consumed in the blaze which marks their passage, and thus seem particularly to be the case with the vast numbers which appear in the occasional so-called "star-showers," like that memorable one which occurred on the morning of the 13th of November, 1833.

Some of the hypotheses which have been suggested to account for aerolites would equally explain, and have been employed to explain the phenomena of shooting stars. Others are more limited in their applicability, and leave the latter class of phenomena to find an independent solution.

You will not expect me to go into a discussion of the merits of these several hypotheses. To do this would occupy a much larger space than I can at present devote to the subject. It will probably be sufficient to state, in brief, the substance of the hypotheses themselves. In the first place, and before the actual fall of meteoric bodies from the atmosphere had been incontestably proved, the burned and vitrified appearance of the masses as they were occasionally found, together with their general uniformity of chemical constitution, and their dissimilarity to any other minerals, suggested the idea that they are produced out of earthy materials, by lightning strokes upon the spots where they are found. It is true that no good rationale of this peculiar effect of lightning could be given, but still the theory had its adherents, until the fact of the fall of the bodies had been fully established.

Another supposition which has, in past years, had the sanction of some eminent names, attributed the origin of meteoric stones to concretions formed in the atmosphere itself, of elements mixed from the earth in a gaseous form. Hydrogen gas, having the power of carrying with it, in gaseous combination, metals of different kinds, and notably iron, this gas was presumed to be the medium of conveying a sufficient quantity of such substances into the upper regions of the atmosphere, to furnish the materials for the meteors; and then as this gas is highly inflammable, it was supposed only to need the occurrence of an electric flash to bring on the necessary chemical action. I need hardly say that modern chemistry finds in this hypothesis no adequate account of the matter; and even if the formation of the solid masses could be thus satisfactorily explained, their great velocity, and the directions of their motion (swifly, if ever, vertical) would still remain unexplained mysteries.

A third hypothesis has regarded aerolites as projectiles thrown from terrestrial volcanoes. The difficulties in the way of such a mode of accounting for the phenomena are entirely insuperable. The earth's atmosphere offers so enormous a resistance to bodies moving swiftly through it, that it could not fail to bring all bodies so thrown out back again to the surface within a very limited distance from the point of projection; and, moreover, the power of gravity toward the earth is so great as to require a projectile force too large, even had the earth no atmosphere, to be reasonably looked for from such a source. These bodies fall, moreover, on every part of the earth's surface, hundreds and even thousands of miles from any active volcano.

Still another mode of accounting for the phenomena, is one which received so far the sanction of the celebrated Laplace, as to have been mathematically demonstrated by him to be physically possible; and one which has still its advocates among our men of science, one of whom—Dr. J. Lawrence Smith—read before the American Association for the Advancement of Science, at their meeting at April, 1854, a very elaborate and, it must be confessed, able argument in advocacy of this view. According to this hypothesis, aerolites are bodies projected from volcanoes in the moon. The moon has no atmosphere (none at least sensibly), and its force of attraction is so much less than that of the earth, that a projectile thrown immediately toward this planet, with a velocity three or four times greater than that of a cannon ball (when it leaves the gun)—that is to say, with a velocity of 7,500 or 8000 feet per second, would pass beyond the point of equilibrium between the moon and earth, and would necessarily come to us, with a velocity derived from the fall, of about six and a half miles a second. It must be observed, however, that if not thrown exactly or very nearly in our direction, such a body would inevitably go back to the moon. Notwithstanding the plausibility of this hypothesis, it is by no means regarded with favor in the scientific world generally.

A hypothesis having some analogy to this was originated early in this century, after the discovery of two or three of the numerous group of small planets whose orbits lie between Mars and Jupiter. It was a favorite notion of Dr. Olbers, the discoverer of the second of these bodies, that there had once been a larger planet occupying this position in the solar system, which, by its explosion, from some unknown cause, had produced the lesser ones then brought to light, and he accordingly predicted that other fragments would be subsequently discovered. The verification of his prediction (there have in all, up to this time, been discovered nearly sixty, secured for this theory, for a time, a somewhat general favor, if not an absolute acceptance; but the study of the orbits of the entire group has since shown that it is far from being probable. Assuming, however, that such a planetary explosion had occurred, it was not very difficult to believe that while the larger masses might have continued to follow pretty nearly the path of the original planet, the minor fragments might have been so widely scattered as to reach—some of them at least—to our own neighborhood.

Dr. Day, late President of Yale College, three out of many years ago, the idea that the earth may have minute satellites revolving about it, like the moon, or revolving rather in orbits more elongated—something like those of comets—which bodies are ordinarily invisible because of their small size, but which, at their contact with our atmosphere in their nearer approaches to the earth, become visible by incandescence. There is nothing, perhaps, to object to this theory, except that it can neither be proved nor disproved.

Another hypothesis, which may finally be mentioned, is perhaps more generally received than any of the foregoing; and this is one which regards the bodies from which aerolites descend, as satellites attendant on the earth. There are facts connected with shooting stars which seem to render it necessary to suppose that besides those large and conspicuous globes which make up what is called the solar system, there must be a countless number of comparatively minute bodies revolving round the sun, perhaps in rings or groups, or possibly scattered irregularly at all distances from the great central luminary. If we suppose this, we shall have no difficulty in accounting for our frequent encounters with such bodies. In the earlier period of the existence of the system, there were numbers of these bodies in such vicinity to us as to be dangerous to the inhabitants of this planet, the causes which made them dangerous would have gradually cleared our path of them, by bringing them down to the earth; and in this supposition those which continued to fall in with us must be regarded as only the remoter ones, disturbed and driven

out of their paths by the attractions of the earth and moon. If I were to venture the expression of an opinion of my own, I should incline to adopt this theory.

Allowing, then, that aerolites are portions of bodies foreign to the earth, which become momentarily luminous as they pass through our atmosphere, it only remains to assign a reason for this momentary brightness, and for the heat which manifestly attends it, and is made evident by the accompanying explosions and the vitrification of the fragments which fall. Twenty years ago, this problem was less easy of solution than it is to-day; although twenty years ago the cause was stated, generally, in the same terms as now. This cause is the resistance which the moving masses encounter in their passage through the atmosphere. The relation of heat to force, and of force to heat, and the convertibility of either into the other, are matters of comparatively recent discovery. It may now be computed with rigid exactness what amount of heat may be produced by the expenditure of any given amount of force.

A moving mass of matter is an embodied force. If its motion be arrested or checked, the force thus apparently destroyed is converted into heat. Were the earth, which moves at the rate of about nineteen miles per second, to be suddenly brought to rest, by striking an immovable obstacle, the heat generated would be equal to that which would be produced by the instant and complete combustion of nearly eighteen times its own weight of coal, and would raise the temperature of the whole mass to a point about five hundred times hotter than that of the hottest wind-furnace, and more than six hundred times hotter than melted iron as it flows from a smelting furnace.

Were a body to fall from the point of equilibrium between the earth and moon, it would enter the atmosphere with a velocity only about a third as great as that of the earth in its orbit; and as the forces represented by moving masses are as the squares of the velocities, its heat-producing power would be but one-ninth as great. Were such a body to be suddenly arrested, its temperature would be raised to about seventy times that of melted iron; and were it only to be retarded, it would become heated in proportion to the retardation.

The actual retardation of a body moving through the air will vary with the magnitude and density of the mass; but a small body—say one of a foot in diameter, and of the average density of meteoric stones—though falling vertically downward, and therefore constantly urged by gravity; and though entering the air with the velocity of six and one-half miles, acquired in falling from the moon, would soon be reduced to the uniform velocity of a quarter of a mile per second. What the actual velocity of meteoric bodies is, it is difficult to determine. They are seen but for a few seconds—they are rarely seen by practised observers—and those who see them are usually so taken by surprise, that the statements made by them as to duration, and direction, and length of track, are often very discordant. But whatever it may be, there is no sort of doubt that it must be very sensibly reduced, during their flight through the atmosphere; and the reduction will be most considerable in a given time, in the case of those whose original velocities are highest. Dr. Bowditch estimated the velocity of the Weston meteor (Connecticut) in 1807, at three miles a second. Mr. Herriek deduced three miles and a half from the reported observations; but expresses his belief that the observers made the duration at least three times too great, and consequently, that the velocity must have been at least ten miles per second. These, of course, are the estimated velocities during the period of the visibility of the meteor. But the body could not have become visible until after becoming highly heated; and there fore the initial velocity can only be conjectured.

If Dr. Bowditch's estimate is correct for the Weston meteor, and if the original velocity had been that acquired by falling from the point of equilibrium between the earth and moon, then there must have been a reduction of more than half the original velocity, and therefore of more than three-quarters of the force; or, in other words, there must have been a generation of heat sufficient to elevate the temperature of the body to a point nearly fifty times above the heat of melted iron. This supposes the conversion into heat of it is however merely transferred to the portions of the air which the meteor sets into motion; and another portion is expended in raising the temperature of the same air. Making every allowance demanded by these considerations, and allowing also, that the actual retardation, owing to the rarity of the upper air, may be much less than assumed above, there still remains an abundantly satisfactory explanation of the luminosity, the explosion, and the fusion and vitrification of these bodies; while the greater heat at the surface than in the interior, is accounted for by the fact, that the resisting force is applied directly at the surface.

I have thus endeavored to answer your inquiries as briefly as the nature of the subject would permit. If I have told you little which you did not know before, it must be attributed to the fact that science has really, upon this subject, so little to tell.

I am, Sir, respectfully, etc.,

F. A. P. BARNARD.

From the Southern Herald.

Mr. ELLISON—I see from your last paper that in publishing the programme of the commencement exercises, to take place at Oxford the latter part of this month, you state, "this is the year in which the class of 1855 agreed to meet and bring their families." This is a mistake. The class of 1855 promised to meet in *ten* years from the time they graduated, and 1865 was the year agreed upon. I hope as many will assemble, however, at the present commencement as can conveniently do so, and I expect to be there myself, but dislike to see the error go uncorrected. I have talked with several of the class and they all remember it as stated above. A large number of that class, who have been laying "the flattering union to their souls" that they have five more years to run at large, have not yet *peined* off, and 'twould be hard to make those poor unlucky devils pay the expenses of the more fortunate (I married ones). Besides my old lady is very complaining, and the children are not well, and knowing it is not the time I promised to bring 'em out, I shall leave 'em at home where they belong. "Yours till death in great haste with a bad pen."

DE SOTO.

Our correspondent "De Soto," seems to be very positive that the agreed meeting of the Alumni of Mississippi University of the class of 1855, does not take place until the year 1865. Several others of the same graduating class are equally positive that the meeting is to be at the present commencement. We fear that De Soto has failed to secure the prerequisites—with and children—that were to accompany each member of the class of 1855 to Oxford in 1860.—*See Intelligencer.*